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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,378	03/24/2004	Noriyuki Tamura	SNY-053	3329
20374 7590 03/09/2010 KUBOVCIK & KUBOVCIK SUITE 1105 1215 SOUTH CLARK STREET ARLINGTON, VA 22202				
EXAMINER				
HODGE, ROBERT W				
ART UNIT		PAPER NUMBER		
1795				
MAIL DATE		DELIVERY MODE		
03/09/2010		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/807,378

Applicant(s)

TAMURA ET AL.

Examiner

ROBERT HODGE

Art Unit

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 17-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SI/225)
- Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 11/30/09 have been fully considered but they are not persuasive. Applicants go to great length to state that state of charge is not a percentage of full charge and cite passages from the instant specification to provide supposed support for their position. However applicants contradict themselves several times. First and foremost in applicants' response filed 7/13/09 applicants stated:

In the response filed August 14, 2008, to this rejection in the first Office Action applicants argued that the recitation in claim 1 of:

"charging and discharging the battery within a range of state of charge (SOC) where no peak corresponding to a compound of silicon and lithium is observed in an X-ray diffraction pattern of the negative electrode during charging using CuK_α-radiation as the X-ray source"

means that the battery is charged to a certain percentage less than 100% of its capacity and is then discharged by 100%. As support for this argument applicants explained that the terminology "State of Charge" is defined as the available, or remaining, capacity of the battery expressed as a percentage of its rated, or nominal, capacity (citing U.S. Patent No. 6,300,763, Cols. 1 and 2, and www.mpoweruk.com/soc.htm).

In the above cited passage applicants clearly defined that in order for a battery to have the measured properties as outlined in the instant claims specifically claim 1, the

battery is charged to a certain percentage less than 100% of its capacity, which is the full charge of the battery. Now applicants contradict themselves by stating that the state of charge has nothing to do with the full charge. Applicants cannot change their position. Furthermore the cited passages provided in the response file 11/30/09 for paragraph [0025] focuses on limiting the charge capacity of the battery to 90% or less than its maximum capacity (i.e. 100% capacity or fully charged). Therefore the rejection is in fact proper and is in fact following the guidelines that applicants set forth most specifically in the response filed 7/13/09. It was also submitted in the previous office action that because the battery of Fujimoto as modified by Yamin is not being fully charged said battery will inherently have the properties as outlined in the claims (See MPEP 2112) and the burden was shifted to applicants to prove in the form of evidence otherwise, said burden has not been met. "When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." In re Spada, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Therefore, the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. In re Best, 562 F.2d at 1255, 195 USPQ at 433. See also Titanium Metals Corp. v. Banner, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985). Furthermore it is even more clear that since Yamin is charging the battery to 5-10% less than its full charge (i.e. maximum capacity) as admitted to by applicants, which means at the 10% less level it will be charged to 90% of the maximum capacity of the battery the properties as recited in the claims will most assuredly exist inherently

since this is the same level that applicants are charging their battery as shown in paragraph [0025] of the instant specification and outlined on page 3 of applicants remarks. It is also noted that "state of charge" is only a measure of the capacity of the battery at the moment the capacity is measured. So therefore because state of charge and capacity are one in the same and the combination as provided in the action is not fully charging the battery, the state of charge of the battery of Fujimoto as modified by Yamin will be 90% of its maximum capacity. For all of the reasons set forth herein and previously presented the rejection of the claims will be maintained.

With regards to the Fujimoto reference it is unclear why applicants feel the need to point out that WO 01/31720 and U.S. Patent No. 7,195,842 are related to one another. The grounds of rejection clearly relies on WO 01/31720 which has been properly provided to applicants along with an official English translation.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 01/31720 with the provided Official English translation hereinafter Fujimoto in view of U.S. Patent No. 5,998,052 hereinafter Yamin.

As per the Official English translation Fujimoto teaches a lithium secondary battery that has a negative electrode having an active material layer of amorphous silicon deposited on a copper current collector through a deposition process and the

amorphous silicon is a thin layer and a binder is included in the active material layer (page 6, line 11 – page 8, line 11 and Experiments 1 and 2).

Fujimoto does not teach a method of charging the lithium secondary battery within a range of state of charge (i.e. not fully charging the battery).

Yamin teaches a method of partially charging a lithium ion rechargeable battery such that it is not fully charged (column 5, lines 19-31).

At the time of the invention it would have been obvious to one having ordinary skill in the art to partially charge the battery of Fujimoto as taught by Yamin in order to provide a lithium secondary battery that has a lower self discharge rate and is significantly less hazardous thereby avoiding the possibility of explosion from short circuits from nail penetration and compression. If a technique has been used to improve one device (partially charging a lithium secondary battery), and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way (providing a lithium secondary battery that has a lower self discharge rate and is significantly less hazardous thereby avoiding the possibility of explosion from short circuits from nail penetration and compression), using the technique is obvious unless its actual application is beyond his or her skill. See MPEP 2141 (III) Rationale C, KSR v. Teleflex (Supreme Court 2007). It is submitted that by the combination of Fujimoto and Yamin as discussed above that no peak (in any of the ranges recited in the claims) corresponding to a compound of silicon and lithium will be observed in an X-ray diffraction pattern of the negative electrode during charging using $\text{CuK}\alpha$ -radiation as the X-ray source since the battery of Fujimoto as modified by Yamin is not being fully

charged. Furthermore it is even more clear that since Yamin is charging the battery to 5-10% less than its full charge (i.e. maximum capacity), which means at the 10% less level it will be charged to 90% of the maximum capacity of the battery and the properties as recited in the claims will most assuredly exist inherently since this is the same level that applicants are charging their battery as shown in paragraph [0025] of the instant specification and therefore the burden is shifted to applicants to prove in the form of **evidence** otherwise.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **ROBERT HODGE** whose telephone number is (571)272-2097. The examiner can normally be reached on 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Basia Ridley can be reached on (571) 272-1453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Robert Hodge/
Primary Examiner, Art Unit 1795